

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re patent application of:) MMB Docket No.: 1867-0008
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Inventor: Osman Ahmed)
)
Application No.: 10/668,949) Examiner: Hung Q. Pham
)
Filed: September 23, 2003) Group Art No.: 2168
)
For: System And Method For) Confirmation No.: 3299
Developing And Processing)
Building System Control)
Solutions)

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(1) REAL PARTY IN INTEREST

The real party in interest is Siemens Corporation, the assignee of record for this patent application.

(2) RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences related to this application serial number 10/668,949 that are known to the Applicant.

(3) STATUS OF CLAIMS

Claims 29-55 have been previously withdrawn in response to a restriction requirement and are not involved in this appeal. Claims 1-28 are pending in the application, have been twice rejected, and are the subject of this appeal.

Each of the appealed claims 1-28 is shown in the Claims Appendix attached to this Appeal Brief.

(4) STATUS OF AMENDMENTS

Appellant has filed no amendments subsequent to the Final Office Action mailed November 14, 2008.

(5) SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 is directed to a system for a building system application. The system facilitates the development of application solutions for controlling environmental systems in buildings. The system includes a database, a data provider interface configured to convert database instructions conforming to a common database access method to database queries conforming to a database application programming interface (API) and to convert database responses to the common database access method, and an application infrastructure. *Specification*, page 9, line 10 to page 10, line 10; page 19, lines 1-19; page 23, lines 1-13; page 33, lines 7-20; FIG. 1A, reference numbers 18, 20, and 34. The application infrastructure includes a system design converter, a computer tool interface, and an external program module. *Specification*, page 20, line 15 to page 22, line 20; FIG. 1B. The system design converter is configured to convert application definition data into computer statements that implement control logic of the application definition data. *Specification*, page 7, lines 21-23; page 8, lines 13-19; page 20, line 23 to page 21, line 9. The computer tool interface and the external program module interface are coupled to the system design converter to provide the system design converter with data from the database through the data provider and external program modules, respectively. *Specification*, page 8, lines 1-22; page 21, line 10 to page 22, line 10. The system design converter is also configured to include the data obtained through the computer tool interface and the external program modules obtained through the external program module interface with the computer

statements that implement the control logic of application definition data to generate a building system application. *Specification*, paragraphs [0062] and [0063].

This system enables system engineers to design building system control logic that is converted into a computer program without requiring the system engineers to communicate system design expertise to software engineers or to write computer programs. *Specification*, page 9, lines 1-9. The above-described application infrastructure allows the application programmer to develop an application without requiring the programmer to have knowledge of multiple database access methods and their particular APIs. The external program module interface enables the system design converter to incorporate external program modules into the generated application solutions. This feature enables the system designer to use previously tested and validated external programs. Consequently, a building system control application developer may concentrate on those aspects of an application solution that provide efficient control over the building parameters affected by the application without requiring the developer to have extensive knowledge of database access methods and external program interfaces.

Independent claim 15 is directed to a method for supporting a building system application. The method includes storing data in a database (*Specification*, page 22, line 11 to page 23, line 13; page 25, line 22 to page 29, line 19; FIG. 3 and FIG. 4), and converting application definition data into computer statements that implement the control logic of the definition data

(*Specification*, page 7, lines 21-23; page 8, lines 13-19; page 20, line 19 to page 21, line 9). The method further requires converting database instructions conforming to a common database access method instructions in the computer statements to database queries conforming to a database API coupled to the database (*Specification*, page 8, lines 1-7; page 9, lines 10-19; page 13, lines 10-22; page 21, lines 10-12; page 22, line 21 to page 23, line 9), converting data responses from the database API to data responses conforming to the common database access method (*Specification*, page 9, lines 19-22; page 13, line 15 to page 14, line 7; page 23, lines 9-12), obtaining external programs through an external program module interface (*Specification*, page 8, lines 1-22; page 21, line 10 to page 22, line 10), and generating building system applications by incorporating data obtained from the data response responses conforming to the common database access method and the external program modules in the computer statements that implement the control logic of the application definition data. *Specification*, page 22, lines 4-10; paragraphs [0062] and lines 1-16 of paragraph [0063]. This method facilitates generation of building system control application solutions from application definition data without requiring the developer of the definition data to have extensive knowledge of database access methods and external program interfaces.

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The first ground of rejection to be reviewed on appeal is whether claim 15 fails to comply with the written description requirement of 35 U.S.C. 112, first paragraph.

The second ground of rejection is whether claims 1, 2, 6-16, and 19-28 are anticipated by Woolard et al., U.S. Patent Number 6,178,362 (hereinafter “Woolard”).

The third ground of rejection is whether claims 3 and 17 are unpatentable under 35 U.S.C. 103(a) over Woolard in view of Gloudeman et al. (U.S. Patent No. 6,141,595).

The fourth ground of rejection is whether claims 4, 5, and 18 are unpatentable over Woolard, Gloudeman, and further in view of Rauer et al. (U.S. Patent No. 6,161,103).

(7) ARGUMENT

I. Claim 15 meets the written description requirement of 35 U.S.C. 112, first paragraph.

The Specification Describes Conversion Of Database Instructions Conforming To A Common Database Access Method In Computer Statements To Database Queries Conforming To A Database API.

The Specification describes two common interfaces 60, 62 that “convert statements from converter 58 that are in a common tool interface format.” *Specification*, page 21, lines 10-12, FIG. 1B. The tools accessed through one of these two common interfaces include “data base management systems.” *Specification*, page 21, lines 17-20. The data provider 20, which communicates with the data base management systems for database 18, forms a portion of this interface. *Specification*, page 22, line 21-23. The data provider 20 couples to applications through an application infrastructure, *Specification*, page 19, lines 5-10; FIG. 1A. The application infrastructure includes the design converter 58 that generates computer statements from application data received from the applications, *Specification*, page 20, lines 15-17 and page 20, line 23 to page 21, line 9. The data provider 20 is described as receiving database instructions from applications that conform to a common database access method instruction format and converts them into database queries that conform to the API for a particular database within database 18. *Specification*, page 23, lines 5-9. These common database access method instructions correspond to instructions in a common tool interface format because a database management system is a computer tool. *Specification*, page 21, lines 17-20. Thus, one of ordinary skill in the art would understand the Specification as describing the data provider 20 as being a portion of interface 60 that receives statements from converter 58 that include instructions conforming to a common database access method obtained from applications.

The Examiner appears to apply an *in haec verba* requirement for compliance with section 112, first paragraph, although such a requirement is not appropriate. *See* MPEP

2163, I, B. In fact, the Examiner's basis for this ground of rejection is not identified in any office action. This ground of rejection first appeared in the office action mailed August 5, 2008 and reiterated in the final office action mailed November 14, 2008. In these documents, the Examiner fails to identify what claim 15 covers as whole, does not compare the scope of the claim with the scope of the description in the specification, and does not discuss whether sufficient written description exists to inform a skilled artisan that the Applicants were in possession of the claimed invention as a whole as of the time of the filing of the application. *See* MPEP 2163 II, A, 1, 2, and 3.

As noted in this section of the arguments and as identified in section 5 of this brief, Applicant maintains the specification supports a determination that the written description requirement has been met. Therefore, Applicant requests that the Board reverse this ground of rejection.

II. None of the claims 1-28 are rendered unpatentable because Woolard fails to disclose limitations presented in claims 1, 7-10, 15, and 21-24.

1. Claims 1, 2, 6, 11-14, 16, 19-20, and 25-28 are not anticipated by Woolard because these claims include limitations set forth in independent claims 1 and 15 that are not disclosed by Woolard.

Woolard fails to disclose the individual limitations recited in claims 1 and 15 for a data provider, a design converter, a computer tool interface, and an external program module interface as well as the interactions of these limitations set forth in these independent claims. With regard to claim 1, claim 1 requires:

a data provider interface configured to convert database instructions conforming to a common database access method to database queries conforming to a database application programming interface (API) and to convert database responses to the common database access method.

This data provider interface converts database instructions conforming to a *common* database access method to database queries conforming to a database API. The Examiner asserts that the RTDB server 102 in Woolard is such a data provider interface. The RTDB

server 102 is not disclosed as converting database instructions conforming to a *common* database access method to queries for a particular database API. Such a conversion appears unnecessary from the teachings of the Woolard reference because all the servers use the same registry and data structures to communicate data in the system. The Examiner attempts to equate the MachineID and PointID identifiers for a device with a common access method and IPointsDataCollection**pPoints with a particular database API. These terms, however, are used by a client object to register for data from a particular device. *Woolard*, col. 12, lines 40-62. Once registered to receive data from a particular point, data updates are provided automatically. *Woolard*, col. 13, line 63 to col. 14, line 4. The data structures are common across the databases and gateways, *see Woolard*, col. 14, line 5 to col. 15, line 24, and no mention is made of conversion from a common database access method to a particular database API. Thus, even in implementations of Woolard that have multiple databases, each one uses the same data structures and the same registry of clients for data access. *Woolard*, col. 8, lines 13-25 and col. 10, lines 23-41. Thus, the Examiner has failed to prove that Woolard discloses a data provider that converts database instructions conforming to a *common* database access method to database queries conforming to a database API.

Likewise, the Examiner has failed to show that Woolard teaches a data provider that converts database responses received from a database API to a *common* database access method. The only teaching in Woolard regarding the data from the devices is that the gateways convert these data into a standard format. *Woolard*, col. 8, lines 9-11. The devices, however, are not databases and the gateways are not data providers converting database responses to a common *database access method*. Thus, Woolard does not disclose the data provider as set forth in claim 1.

The Woolard reference also fails to disclose “a design converter configured to convert application definition data into computer statements that implement control logic of application definition data” as required by claim 1. The Examiner again refers to the device data collection and reporting scheme of Woolard as meeting this limitation. This assertion, however, is not supported by references to the record that prove Woolard discloses a design converter that is configured as claimed. Indeed, the system in Woolard

requires no design converter because it is a system for managing the use of energy, particularly managing energy use for a commercial user. *Woolard*, col. 1, lines 5-8. The system accomplishes the goal of providing users of a physical plant with a comprehensive understanding of the plant's energy consumption by using navigation tools, analytical processes, and communication capabilities to present large amounts of real-time energy data to the user. *Woolard*, col. 1, line 65 to col. 2, line 9. Thus, the system of *Woolard* does not facilitate the task of developing application solutions for building systems, which is the goal of the system set forth in claim 1. Consequently, the data and object names cited by the Examiner in the final office action do not correspond to application definition data and these names are not used to generate computer statements.

The *Woolard* reference also fails to teach a “computer tool interface configured to provide the system design converter with data from the database through the data provider interface.” Indeed, it cannot disclose such a limitation as the reference does not teach a system design converter and a data provider interface as described above.

The *Woolard* reference also does not disclose an “external program module interface configured to provide the system design converter with external program modules.” The Examiner cites as evidence for such a teaching a portion of *Woolard* that simply states a client application may call a subroutine to register a request for data from a particular data point with a concentrator coupled to the application. *Woolard*, col. 12, lines 57-62. This description fails to identify external program modules that are provided to another component of the system in *Woolard* and it certainly does not teach the provision of external program modules to a design converter.

Also, the *Woolard* reference does not teach that a design converter is further “configured to include the data obtained through the computer tool interface and the external program modules obtained through the external program module interface with the computer statements that implement the control logic of application definition data to generate a building system application.” In the final office action, the Examiner references a section of *Woolard* that describes the operation of a server to provide data to client applications (col. 12, line 63 to col. 13, line 20), but it does not describe the inclusion of data obtained through a computer tool interface or the inclusion of external program

modules obtained through an external program module interface with computer statements to generate a building system application. As noted above, the Woolard reference does not teach the system is used to produce application solutions. Instead, the system provides energy consumption data to a user so the user can control a physical plant system. The facility manager cited by the Examiner at col. 6, line 55 to col. 7, line 20 may be a type of a building control system, but it is not a system that segregates the application design task from the software support task as the claimed system does. *Specification*, paragraph [0024].

All of these reasons prove that the Examiner has failed to provide a record with properly supported findings of fact that demonstrate that the Woolard reference teaches each and every limitation of claim 1. Because claims 2, 6, 11-14 depend from claim 1, they also include these limitations not taught by Woolard. Additionally, the limitations of claims 15, 16, 19-20, and 25-28 correspond to the limitations of claims 1, 2, 6, and 11-14. Thus, these claims are patentable for reasons similar to those presented above with reference to those claims. Therefore, the Board is respectfully requested to reverse the section 102 ground of rejection for claims 1, 2, 6, 11-16, 19-20, and 25-28.

2. Claims 7-8 and 21-22 are not anticipated by Woolard because these claims include limitations beyond those recited in independent claims 1 and 15 that are not disclosed by Woolard.

Claim 7 further includes operating system communication components that are configured to couple the computer statements that implement the control logic of the application definition data to another application through the operating system and claim 8 further specifies that the operating system communication components communicate through a Windows operating system. The portion of Woolard cited by the Examiner (col. 9, lines 38-44) simply indicates the client applications may communicate over the Internet with the server 102. The Examiner has failed to prove how the use of a browser is a teaching with regard to the coupling of computer statements that implement the control logic of application definition data to another application through operating system communication components or through a Windows operating system. Claims 21 and 22

include limitations similar to these limitations discussed with reference to claims 7 and 8, respectively. Thus, the Board is asked to overturn the section 102 ground of rejection with respect to claims 7-8 and 21- 22 separately from the reversal of the other allegedly anticipated claims.

3. Claims 9 and 23 are not anticipated by Woolard because these claims include limitations beyond those recited in independent claims 1 and 15 that are not disclosed by Woolard.

Claim 9 further requires the Web-based components to couple the computer statements for the application solution to another application over the Internet through a customer web portal. The Examiner cites the same portion of Woolard discussed above with reference to claims 7 and 8 (col. 9, lines 38-44). This section makes no reference to a web portal of any type and a browser does not constitute a web portal as that term is understood by one of ordinary skill in the art. Indeed, the Examiner has failed to enter into the record any evidence of correlation between a browser and a web portal. Thus, the Examiner has failed to prove that Woolard discloses a customer web portal having the limitations required by claim 9. Claim 23 includes a similar limitation. Therefore, the Board is asked to overturn the section 102 ground of rejection with respect to claims 9 and 23 separately from the reversal requested for the other allegedly anticipated claims.

4. Claims 10 and 24 are not anticipated by Woolard because these claims include limitations beyond those recited in independent claims 1 and 15 that are not disclosed by Woolard.

Claim 10 further includes “a configuration utility configured to develop a file structure representative of a building system and to associate configuration data with components identified in the file structure.” The Examiner fails to show how Woolard discloses such a utility. Woolard only discloses a configuration database 129 and the only reference to this database states that the database may receive configuration data from a gateway for a particular device and forward updated configuration data to a device and gateway. This sparse description does not identify a utility configured to *develop* a file

structure representative of a *building* or specify the operation of the utility to associate configuration data with components identified in the file structure. The limitation of claim 24 is similar to this limitation of claim 10. Thus, the Board is asked to overturn the section 102 ground of rejection with respect to claims 10 and 24 separately from the reversal requested for the other allegedly anticipated claims.

5. Claims 3-5 and 17-18 are not rendered obvious because the section 103 ground of rejection for these claims are founded on Woolard.

The obviousness rejection of claims 3-5 and 17-18 are based on combinations that use Woolard for a foundational basis. As discussed above, Woolard fails to disclose a number of limitations that the Examiner asserts are present in the reference. If the Board finds that at least one of these limitations is not present in Woolard, then the section 103 ground of rejection of claims 3-5 and 17-18 should also be reversed. Thus, claims 3-5 and 17-18 stand or fall with claims 1-2, 6, 11-16, 19-20, and 25-28.

CONCLUSION

As set forth above, the Woolard reference fails to disclose limitations presented in claims 1, 7-10, 15, and 21-24. Consequently, these claims are not anticipated by Woolard and the section 102 ground of rejection of these claims should be reversed. Similarly, claims 2, 6, 11-16, 19-20, and 25-28 are not anticipated by Woolard because they depend from claims 1 and 15 and thus, include the limitations of these claims not set forth in Woolard. Additionally, claims 3-5 and 17-18 are not obvious over any proffered combination based on Woolard because Woolard does not disclose all the limitations of the underlying base claims from which claims 3-5 and 17-18 depend. The Board of Appeals, therefore, is respectfully requested to reverse the rejection of pending claims 1-28.

Respectfully submitted,
MAGINOT, MOORE & BECK LLP

/David M. Lockman/
David M. Lockman
Attorney for Applicant
Registration No. 34,214

June 16, 2009
Maginot, Moore & Beck LLP
Chase Tower
111 Monument Circle, Suite 3250
Indianapolis, Indiana 46204-5109
(317) 638-2922 Telephone
(317) 638-2139 Facsimile

(8) CLAIMS APPENDIX

1. (Previously presented) A system for a building system application comprising:
a database;

a data provider interface configured to convert database instructions conforming to a common database access method to database queries conforming to a database application programming interface (API) and to convert database responses to the common database access method; and

an application infrastructure, the infrastructure comprising:

a system design converter configured to convert application definition data into computer statements that implement control logic of application definition data;

a computer tool interface coupled to the system design converter, the computer tool interface configured to provide the system design converter with data from the database through the data provider interface;

an external program module interface coupled to the system design converter, the external program module interface configured to provide the system design converter with external program modules; and

the system design converter being further configured to include the data obtained through the computer tool interface and the external program modules obtained through the external program module interface with the computer statements that implement the control logic of application definition data to generate a building system application.

2. (Previously presented) The system of claim 1 wherein the database is comprised of a plurality of databases.

3. (Previously presented) The system of claim 2, the database being comprised of a real-time database and a data mart.

4. (Previously presented) The system of claim 3, the data mart being configured in one of a snowflake and star data organization.

5. (Previously presented) The system of claim 1, the external program module interface further comprising:

common components configured to support the application generated by the system design converter.

6. (Previously presented) The system of claim 1, the external program module interface comprising:

Web-based components configured to couple the computer statements that implement the control logic of the application definition data to another application over the Internet.

7. (Previously presented) The system of claim 5, the common components further comprising:

operating system communication components configured to couple the computer statements that implement the control logic of the application definition data to another application through an operating system.

8. (Previously presented) The system of claim 7 wherein the operating system communication components communicate through a Windows operating system.

9. (Previously presented) The system of claim 6 wherein the Web-based components couple the computer statements that implement the control logic of the application definition data to another application over the Internet through a customer web portal.

10. (Previously presented) The system of claim 1 further comprising:

a configuration utility configured to develop a file structure representative of a building system and to associate configuration data with components identified in the file structure.

11. (Previously presented) The system of claim 1 further comprising:

a data collector interface configured to couple external data sources to the database.

12. (Previously presented) The system of claim 11 wherein the data collector interface is configured to convert data from a native format for an external data source to a format that is compatible with the database structure.

13. (Previously presented) The system of claim 12 further comprising:

transaction services configured to generate instructions for the database API to store the converted data in the database.

14. (Previously presented) The system of claim 11 further comprising:

a scheduling service configured to activate the data collector interface to interrogate the external data sources for data to be stored in the database.

15. (Previously presented) A method for supporting a building system application comprising:

- storing data in a database;

- converting application definition data into computer statements that implement control logic of the application definition data;

- converting database instructions conforming to a common database access method in the computer statements to database queries conforming to a database application programming interface (API) coupled to the database to enable the instructions conforming to the common database access method to access the database;

- converting data responses from the database API to data responses conforming to the common database access method;

- obtaining external programs through an external program module interface; and

- generating building system applications by incorporating data obtained from the data responses conforming to the common database access method and the external program modules in the computer statements that implement the control logic of the application definition data.

16. (Previously presented) The method of claim 15 wherein the storing of data in the database includes storing the data in a plurality of databases within the database.

17. (Previously presented) The method of claim 15 wherein the storing of data in the database includes storing the data in one of a real-time database and a data mart.

18. (Previously presented) The method of claim 17 further comprising:

- configuring the data mart in one of a snowflake and star data organization.

19. (Previously presented) The method of claim 15 further comprising:
coupling common components to the computer statements for implementing control logic of application definition data for communication support.

20. (Previously presented) The method of claim 19, the common component coupling comprising:
coupling the computer statements for implementing control logic of application definition data to another application through a Web-based component for communication over the Internet.

21. (Previously presented) The method of claim 19, the common component coupling comprising:
coupling the computer statements for implementing control logic of application definition data to another application through an operating system communication component for supporting application communication through the operating system.

22. (Previously presented) The method of claim 21 wherein the operating system common component coupling includes:
coupling a Window-based communication component to the computer statements for implementing control logic of application definition data.

23. (Previously presented) The method of claim 20 wherein the communication through the Web-based component over the Internet is through a customer web portal.

24. (Previously presented) The method of claim 15 further comprising:
developing a file structure having components representative of a building system; and

associating configuration data with the components identified in the file structure.

25. (Previously presented) The method of claim 15 further comprising:
coupling external data sources to the database.

26. (Previously presented) The method of claim 25 further comprising:
converting data from a native format for an external data source to one that is compatible with the database.

27. (Previously presented) The method of claim 26 further comprising:
generating instructions for the database API to store the converted data in the database.

28. (Previously presented) The method of claim 27 further comprising:
interrogating, on a scheduled basis, a plurality of external data sources for data to be stored in the database.

(Withdrawn) Claims 29-55.

(9) EVIDENCE APPENDIX

No evidence was submitted under rules 1.130, 1.131, or 1.132.

Additionally, no other evidence has been entered in the record by the Examiner upon which the Applicant relies.

(10) RELATED PROCEEDINGS APPENDIX

No proceedings were identified in the Related Appeals and Interferences presented above. Therefore, no decisions of a court or the Board are contained herein.